



## PATENT ABSTRACTS OF JAPAN

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MORIMURA HIROYUKI

(54)PEAK TRANSMITTED WAVELENGTH  
RETRIEVAL DEVICE FOR OPTICAL TUNABLE  
FILTER

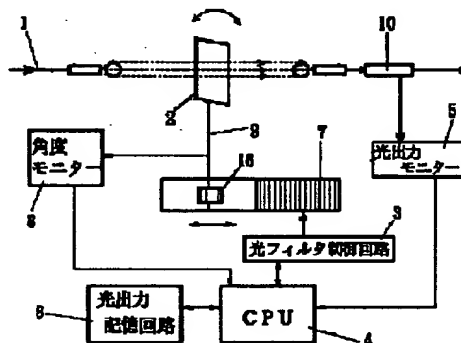
**(57)Abstract**

**PURPOSE:** To allow the filter to track accurately a peak transmitted wavelength by arranging a BPF in a collimated optical path in a freely oscillating way and providing an angle monitor, an optical output monitor, an optical filter control circuit and an optical output storage circuit.

**CONSTITUTION:** A relational equation between a tilt angle and a transmitted wavelength is given in advance to a CPU 4, which controls an angle monitor 8, an optical output monitor 5, and an optical filter control circuit 7. A BPF 2 is oscillated over its entire range to scan a multiplex signal light transmitted through an optical fiber 1. The tilt angle of the BPF 2 is detected by a monitor 8 and the light intensity at that time is detected by the monitor 5. A peak transmitted wavelength and its optical output valve are calculated based on the relational equation between a tilt angle and a transmitted wavelength and measured data and the optical output valve is stored in an optical output storage circuit 6. The BPF 2 is roughly adjusted to a desired peak transmitted wavelength and the CPU 4 is

used to track the accurate peak transmitted wavelength. Furthermore, an unknown peak transmitted wavelength is similarly detected and sensed.

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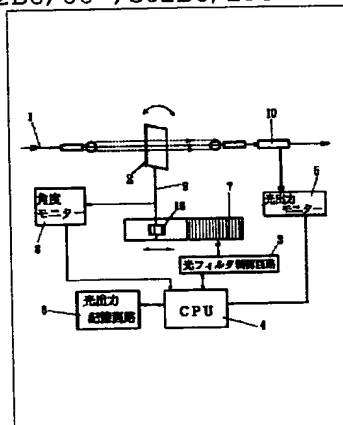


# WPI

- TI - Peak transmission wavelength search appts. for optical tunable filter in multiplex communication system - has memory in which detected wavelength and signal intensity data are stored, from which peak wavelength is searched
- AB - J08288932 The appts consists of a bandpass filter (2) which is swingably arranged along an optical path. The inclination angle of the filter is detected by an angle monitor (8) and the inclination angle is given to CPU (4). An optical filter controller (3) varies the angle of the filter and positions properly.
- The output transparent wavelength of the light is measured by an output monitor (5) and is given to the CPU. The detected wavelength and the signal intensity data are stored in a memory (6) which are then tracked for peak wavelength.
- ADVANTAGE - Enables high speed and correct scanning of peak wavelength. Detects abnormal wavelength correctly.
- (Dwg.1/4)
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- PA - (KOSH-N) KOSHIN KOGAKU KK
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- DC - P81 V07 W02
- IC - G02B6/00 ;G02B6/293 ;H04J14/00 ;H04J14/02
- AN - 1997-027609 [03]

# PAJ

- TI - PEAK TRANSMITTED WAVELENGTH RETRIEVAL DEVICE FOR OPTICAL TUNABLE FILTER
- AB - PURPOSE: To allow the filter to track accurately a peak transmitted wavelength by arranging a BPF in a collimated optical path in a freely oscillating way and providing an angle monitor, an optical output monitor, an optical filter control circuit and an optical output storage circuit.
- CONSTITUTION: A relational equation between a tilt angle and a transmitted wavelength is given in advance to a CPU 4, which controls an angle monitor 8, an optical output monitor 5, and an optical filter control circuit 7. A BPF 2 is oscillated over its entire range to scan a multiplex signal light transmitted through an optical fiber 1. The tilt angle of the BPF 2 is detected by a monitor 8 and the light intensity at that time is detected by the monitor 5. A peak transmitted wavelength and its optical output value are calculated based on the relational equation between a tilt angle and a transmitted wavelength and measured data and the optical output value is stored in an optical output storage circuit 6. The BPF 2 is roughly adjusted to a desired peak transmitted wavelength and the CPU 4 is used to track the accurate peak transmitted wavelength. Furthermore, an unknown peak transmitted wavelength is similarly detected and sensed.
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- IN - ENDO TAKASHI;MORIMURA HIROYUKI
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